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NOTES ON AMERICAN AND OLD WORLD ENGLISH
SPARROWS.

BY JOHN C. PHILLIPS.

IN the spring of 1911 I undertook to collect skins of *Passer domesticus* from various parts of the United States with the object of studying any possible geographical or climatic effects which the species in its new surroundings might have undergone. For this purpose I communicated with a number of collectors, both professional and amateur (about forty in all) throughout the country, but the answers and especially the number of skins received were by no means encouraging. Many of these men had already gone out of business; others could not kill sparrows in places where these birds were confined to city limits; and still others no doubt thought the pursuit of a few specimens of this inglorious and unremunerative species scarcely worth while.

At the present my collection is stationary, and in these notes I shall simply give the meagre results as far as they have progressed. It is as well to state that although the enquiry was started as a study in variation, it would be better with the data now at hand to call it "A study of the stability of a species under wide-ranging climatic and geographical conditions."

In July, 1911, four hundred and forty-six enquiries were sent to postmasters in the western states in order to get an idea of the distribution of the English Sparrow since the map of Barrows, 1889, and also the length of residence of the species in various western districts. Three hundred and twenty-eight answers were received, and these will be mentioned later. .

It is necessary at first to outline the native distribution of *P. domesticus* and its subspecies, giving a brief diagnosis of these as they are described by the latest authority on the Passerine birds of Europe, Hartert's 'Die Vogel der Palearktischen Fauna.' Hartert says that *P. domesticus* is found over all of Europe except Italy, where it is very rare (less so in Friaul and Udine). In Scandinavia beyond the Arctic Circle, all over the British Isles, but not on the Faroes, Madeira, Azores or Canaries. All over Russia and Siberia

to Irkutsk; to Darien in East in cities and villages, (here only since permanent habitation) and not in territory of nomads. In South to Gibraltar, Spain and Portugal, to Tangiers, on Balkan Peninsula, and on Balearic Isles. Also imported to New Zealand and Australia and North America. Male wing 76-82.5; rarely 83 (E. Prussia). He says it was not easy to define the limits of *P. d. indicus*, an eastern race, on account of lack of material and the pronounced variation of *domesticus*, especially in the color of the back, lighter or darker, more or less mixed with white, and also in the size. He was not able to separate any races in Europe, but says more material may give other results.

English, Irish, W. German and Dutch specimens he considers smaller, but there is no definite boundary line. The largest male is from Eastern Prussia. Specimens from S. E. Europe have brighter colors, but nothing constant. Caucasus specimens have grey ear coverts, very pure colors, and look like *P. indicus*, but cannot be separated as a race. Some specimens have fine black cross-bars on lower sides. Spanish spring birds are peculiar because of light colors and chestnut brown on the lesser wing coverts and back. We thus see stability over a very large area, with tendency to certain variation.

The following sub-species are recognized by Hartert:

P. d. biblicus Subspec. nov.: size Wing 82-84; beak as large or larger, back light chestnut brown with no white; grey of rump and head covered in fall with a pale brown tint. Wings and tail not as dark. Ear coverts not white as *indicus*, but light grey with brownish tint. Six specimens. (In the Museum of Comparative Zoölogy I have seen five males from near Jerusalem, Selah Merrill Collic; all of them fall below the measurements given by Hartert except one which equals his smallest—Wing 78-82-77-80-79.) Distribution of this race: Syria, Palestine from Beersheba to Beirut.

P. d. tingitanus Locke: Very much like *P. domesticus* but grey feathers of upper head in the male are black towards base; a fact only noticed in fresh feathers when they are raised up. In spring the worn head feathers look dotted with black; ear coverts not as grey, and lower parts somewhat lighter and cream colored. Rump somewhat lighter and wing a little longer. Females also somewhat lighter and less greyish. Distribution: Tunis and Algiers, Morocco.

Occasionally specimens of pure *domesticus* with head characters of this race are found in Germany.

P. d. ahasver Kleinschmidt: Just like *domesticus*, but a round spot in center of the top of the head is grey, surrounded by a circle of brownish red which protrudes a little over the forehead. Author has only one specimen, so form is not definitely fixed. Distribution: Countries south of Atlas.

P. d. arboreus Bonaparte: A small and lively colored species of *domesticus*. Top of head a rusty brownish grey in fall; in spring a lively reddish, chestnut brown, with very narrow black stripes. In fall we can see light rusty brown feather tips which are soon worn off. Rump and upper tail coverts always show more or less rusty red spots. Wing of the male, 72-74; female only distinguished from *domesticus* by smaller dimensions. Distribution: Nile, Dongola and Berber, south to twelve degrees. Found near Khartoum commonly.

P. d. chephreni Phillips: This race, recently separated by myself (Proc. Biol. Soc. Wash., 1913, p. 167), is like *P. d. indicus* but the cheeks and ear coverts are darker. Hartert noticed this difference but did not separate this bird. Its distribution is the northern Nile Valley.

P. d. indicus Jardine & Selby: Noticeably smaller, Wing 74-78; light head areas pure white; upper ear coverts often of light grey tint and general colors lighter. Distribution: Cochin China, Burma (in Terrasserim South to Moulmein), Ceylon, India, Turkestan, Transcaspia, Persia and So. Arabia. Transcaspian birds are sometimes intermediate to *P. domesticus*.

P. d. Pyrrhonotus Blyth: A very small sparrow with a light grey center on the head, small black spot on throat and a chestnut brown lower back. Wing of male, 68-69. Distribution: Sindh (Narra).

Nicoll and Bonhote described another race, *P. d. niloticus* from the desert east of Cairo, which is apparently somewhat like *P. d. arboreus*.

I am not familiar at first hand with these races except *biblicus*, *indicus*, *arboreus* and *chephreni*. *Indicus* is a very strongly marked subspecies and is recognized at a glance, and so is *arboreus*. Some of the other races are less well marked.

Turning now to the series of *Passer domesticus* obtained in 1911, and that already in the collection of the Museum of Comparative Zoölogy, it is well to give a list of the specimens, and to mention some of the individual variations.

Littleton, Colo., May, 1911, ten specimens, four adult males. These four males show rather marked differences in color. Specimen A is an extremely buffy bird with a large amount of rich chestnut on head and neck, and very little black on back. Specimen B is very blackish on the back, with very little buff anywhere. Taken as a whole, this series shows more color variation than any other.

Denver, Colo., winter, 1911-12, F. C. Lincoln, collector, 23 specimens, 12 males. These specimens are more or less soot stained, but two are bright and clean. (This soot staining is easily recognized after it has once been seen.)

Nampa, Idaho, eight skins, two adult males, May and June, 1911. Nothing of note.

Tacoma, Wash., pair, March, 1909. These birds are very dirty, like the London ones.

Blue Rapids, Kans., P. B. Peabody, collector, May, 1911, nine skins, four adult males.

Excelsior, Minn., Albert Lano, collector, eighteen skins, eight adult males, May, 1911. This series presents, I believe, a slight difference in color. The males are very rich red on the post-ocular and neck patch, while the backs are strongly streaked and dark in color. I rather hesitate to mention this, but believe it to be a real fact.

Mount Pleasant, S. C., A. T. Wayne, collector, May, 1911, three adult males.

Warwick Co., Va., H. H. Bailey, collector, May, 1911, Feb., 1912, eighteen skins, fifteen adult males.

Brownsville, Tex., Armstrong, collector, 1889, one pair. The male shows pure white primaries and secondaries on both sides; also some white tail feathers.

Mt. Carmel, Ill., one male, 1878.

Washington, D. C., 1900, one pair.

Sing Sing, N. Y., four skins, two males, 1874-1879.

Princeton, N. J., five skins, three males, 1879.

Boston and vicinity, 1878 to recent date, twenty-four skins.

Boston, 1878, Bangs, collection, two males, Nos. 4746 and 4744. Both of these specimens show much chestnut on throat and breast, in specimen 4746 practically replacing the black of that region.

Germany, two males, one female.

Roumania, eight males.

Pommern, Prussia, one male, 1871.

England, eighty-six skins, sixty-six males. Many taken near London are very black all over, undoubtedly due to soot. This series shows well the characteristic age differences. The older the bird, the greyer becomes the pileum, the whiter the cheeks and the lighter the abdomen. All the males in immature plumage have an olivaceous pileum, approaching the color of the female pileum.

From the Museum of Vertebrate Zoölogy of the University of California, through the kindness of Mr. Joseph Grinnell, I have had the opportunity of examining the following large series:

Tipton, Tulare Co., Calif., three males, April, 1911. Fine, clean skins.

Berkeley, Calif., eight skins, seven males, 1909-10, except one dated 1892. This series is all soot-colored, especially male 11618 (1892).

Raymond, Madero Co., Calif., one male, April 1911. A very bright clean skin.

Oakland, Alameda Co., Calif., two females, Oct., 1908. One a partial albino, nearly white on dorsum except for primaries and secondaries.

Tower House, Shasta Co., Calif., two males, March, 1911.

Honolulu, Oaha, June and March, 1910, sixteen males and ten females, collected by Miss Alexander. The plumage of this whole series has a very bright and clean look, due perhaps to a clean, showery climate. There appears to be, however, no essential differences either in measurements or color.

As to the size of specimens from various localities, the table (p. 56) will show at a glance all I have been able to learn.

It will also be seen from the table that there is little choice in size either from single localities or grouped localities such as those found in the first part of the table. It is nevertheless apparent that sparrows from England are slightly smaller, a fact pointed out

Loc.	Males				Females & juvenile			
	Wing	Tarsus	Cul.	No. spec- imens	Wing	Tarsus	Cul.	No. spec- imens
England	75	19.4	11.6	66	72	19	11.4	20
Roumania & Germany	76.3	18.8	12	11				
New England	77	19.3	11.8	27	75.5	19.6	11.7	6
West America	76.6	19.4	12.1	30	75.3	19.4	11.8	45
South Atlantic	77.1	19.8	11.8	18	75	19.4	12	5
Littleton, Col.	75.2	18.6	12	4	75.3	19.4	12	6
Nampa, Idaho	77.5	20	13	2	76.1	19.8	10.9	6
Blue Rapids, Kansas	76	19.4	11.8	4	75	19.4	11.5	5
Tacoma, Wash.	76	19	11.5	1	74	20	12	1
Brownsville, Texas	73	17.5	12	1	73	20	10	1
Marshall Co., Kansas					76	18	12.5	1
Mt. Pleasant, S. C.	77.7	19	12.3	3				
Warwick Co., Va.	77	20	11.7	14	75	19.4	12	5
Denver, Col.	78	19.5	11.9	12	75	19	11.8	12
Excelsior, Minn.	76.6	19.4	12.5	6	75.7	19.7	12.1	13

by Hartert and noted above. My series from Denver run large, while those from Littleton, Colo., are small. New England and South Atlantic birds are large, especially three males from Mt. Pleasant, S. C., but all these differences are too slight to be of much significance. No birds as large as Hartert's maximum have been seen.

The series lent by the Museum of Vertebrate Zoölogy was not measured individually.

Townsend and Hardy in 'The Auk' for 1909, p. 78, give some measurements for English birds and for recent and early New England birds. They notice the smaller size of English birds. They also obtained larger measurements for the bills of recent New

England birds than for older ones, 13.18 as against 12.64. I think this result must be accidental, as I have found no specimens with bills as large as 13 mm. It is not necessary to say, perhaps, that observers should be careful in comparing their own measurements with those of others, for meteods vary a great deal.

It is not my intention to go into the dispersal of the sparrow in America. The map which I constructed from replies to my postal cards showed that the bird was present in all county seats throughout the entire west which replied to my query, except a few places in northern Idaho, northwestern and northeastern Oregon, northwestern California, and some other scattered localities mostly in Nevada and Arizona. The literature teems with notices of the arrival of the English Sparrow at different places through the west, and a very fair map of its advance during the past twenty years could be constructed from this source. I find two notices which require special mention. In the 'Ottawa Naturalist' for May, 1909, Criddle expresses the opinion that sparrows of eastern Canada migrate in part, and that these migrants breed later than the local birds.

Wood (Wilson Bull., XXIII, p. 103) noted at Charity Isle, Lake Huron, Oct. 8, 1910, a flock of several hundred *P. domesticus*, and another flock seen a few days before. He states that the bird does not breed there. Is it possible that the new environment of the English Sparrow will bring about migratory tendencies? One would not be inclined to attach much importance to isolated flights of sparrows like the above, for they may be due to purely local conditions.

P. domesticus was also introduced about 1885 at Ivigut, Greenland, but the colony was said to be diminishing (Auk, 1889, p. 297). It is present also in Bermuda, Cuba and at Nassau. Specimens from these places and also from the desert towns of southern California would be most interesting for comparison, but I have not so far been able to obtain any.

Bumpus has given us two papers on variation in the English Sparrow which should be mentioned, because the second of these, 'The Elimination of the Unfit as Illustrated by the Introduced Sparrow,' (Biol. lectures, 1898) has been quoted as an instance of natural selection in active operation. Bumpus' paper is of great

interest to ornithologists. Briefly, he examined by careful measurements, 138 sparrows which were picked up during a severe storm in February, 1898. 72 of these birds revived while 64 perished. Those birds which perished showed certain constant differences which held through the three following groups, adult male, young males, and females. These differences tend to show that the surviving birds are shorter, weigh less, have longer wing bones, longer legs, longer sternums and greater brain capacity. Some of these differences are very slight and some of the measurements are not the ones that ornithologists might pick out, e. g., alar extent and total length; but there seems to be no questioning the fact that the data point to a real difference in the two classes of birds. Even of greater interest are the figures brought forward in regard to extent of variation in these same birds. Those individuals with any marked tendency towards maximum and minimum measurements nearly always fall into the "perished" class, and as a group the "survivors" are more uniform and conform more closely to the ideal species mean.

J. A. Harris in the 'American Naturalist' for May, 1911, treated Bumpus' figures from a biometrical standpoint and came to the conclusion that they had a real significance. J. A. Allen also reviewed this paper in 'The Auk.'

In an earlier paper, (Biol. Lectures, 1898) Bumpus reported the study of 1736 sparrow eggs, one half English and the other half American. This large series showed that the American eggs had become shorter, more spherical, and much more variable in color and pattern, and the conclusion is reached that American birds have been subject to a slightly changed and perhaps less selective environment.

It has been stated that albinism in the house sparrow is more common here than in the old world, but I do not find any comparative figures.

We might expect that an imported species with a successful history like the sparrow would show an increase of variability in form and color. A well known example of this phenomenon is the land snail. *Helix nemoralis* which introduced from Europe produced in a short time a large number of varieties unknown in its home. Another case is the snail, *Littornia littoria*, which in its

new environment (America) took on a greatly increased variability of size.

All we can say in conclusion is that the English Sparrow has changed very little in outward appearance and gross measurements during his sojourn in America. A careful study of a large series in the flesh would probably give results of interest, and perhaps demonstrate an increased variability in American specimens. I should like to add that sparrow skins from the southwest, from Cuba, Bermuda or other isolated points will be most gratefully appreciated by the writer.

A NEW SUBSPECIES OF SCREECH OWL FROM CALIFORNIA.

BY J. GRINNELL.

(Contribution from the Museum of Vertebrate Zoölogy of the University of California.)

MATERIAL representing the genus *Otus* has been very slow in accumulating from California. For some years local systematic workers have been of the opinion that two races exist in the region west of the desert divides, both being included in the literature under the name *bendirei*. The present writer is at last fortunate in having access to a sufficient series of skins to enable him to arrive at conclusions; and he is convinced of the desirability of recognizing the two races under separate names, though the series is at the same time inadequate for working out properly their respective geographic ranges. The material for study has been brought together from the Morcom, Swarth, Grinnell and Mailliard collections, and from the California Museum of Vertebrate Zoölogy. The latter institution has recently acquired some northern coast Screech Owls of particular value in the present connection.

The two forms here separated belong to the humid coast belt of California, and to the more arid southern and interior parts of the same state, respectively. Since *Scops* [= *Otus*] *asio bendirei* was described (Brewster, Bull. Nutt. Orn. Club, VII, January, 1882, p.